

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)

Federal-State Joint Board on)
Universal Service)

CC Docket No. 96-45

REPLY COMMENTS OF APPLE COMPUTER, INC.

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Apple Computer, Inc. ("Apple") hereby submits these reply comments in the above-referenced proceeding. In its comments in this proceeding, Apple addressed the need to raise the threshold of what is considered "sufficient" with respect to certain universal service capabilities. Apple called special attention to schools and libraries, not served effectively, or at all, by service providers offering wideband connectivity.

In a related proceeding, the Commission now has provided for a powerful means by which universal service — which will increasingly require being "on line" — can reach places and people that otherwise will be left behind the rest of our information-based society. In Amendment of the Commission's Rules to Provide for Operation of Unlicensed NII Devices in the 5 GHz Frequency Range, Report and Order, ET No. 96-102 (rel. Jan. 9, 1997), the Commission has made available 300 MHz of spectrum above 5 GHz for use by a new generation of wireless communications technologies — Unlicensed National Information Infrastructure ("U-NII") devices. These new wireless U-NII technologies offer great promise for the development of innovative new services and the realization of a fully accessible national information infrastructure.

Of particular importance in the instant proceeding, wireless U-NII technologies will provide "flexible and inexpensive" communications alternatives that will help to "assure delivery of information and services to all members of our society, regardless of income or location." *Id.* ¶ 16. Indeed, the Commission cited the ability of U-NII technologies to advance universal service goals as an important basis for its decision to allocate U-NII spectrum. *Id.* ¶ 18. As the Commission considers specific universal service issues in this proceeding, it should continue to recognize that its

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decision has expanded the range of communication possibilities, which will be driven by advances in technology that are nurtured by the fresh regulatory construction of the U-NII band.

U-NII technologies will support a wide range of multi-media broadband digital communications services where there is no practical alternative offered by wired and licensed-wireless networks. For example, U-NII technologies will allow schools and libraries to use wideband unlicensed LANs for intra-site communications, as well as provide for interaction with off-site information resources in a cost-effective manner. Students within different classrooms or different buildings on a campus may use U-NII technologies to connect with high-speed wireless networks, which in turn will provide them with access to the school's Internet connection and allow them to share, in real-time, sizable text files, pictures, music, graphics, scientific data, and video communications.

Moreover, U-NII technologies will allow for the creation of longer-distance point-to-point wireless connections that will connect parties to one another or to a distant Internet point of presence, spanning rural areas and extending information access through small municipalities. These "community networks" have the potential to be one of the basic information resources for Americans in the next century.

U-NII technologies, devices, and networks will be put into operation by the people who will use them; they do not require the intervention of service providers. Thus, they promise to vastly enhance the level of service that can be provided "universally." The idea that a 28.8 kbps modem connected to a single dial-up telephone line offers adequate communications capabilities for an entire student body is not consistent with today's realities. When considered in context of the information and technology advances that are being made, "universal service" must be provided at significantly higher levels of performance than now is considered acceptable.

Apple recognizes that there are applications for both wireline and wireless communications technologies in schools and libraries. Further Apple supports those parties that have suggested that schools should have the maximum flexibility to determine how their communications needs will be met — the closer to the individual student, the better. Nonetheless, Apple welcomes the Commission's

opening of the U-NII band and believes that universal service is within closer reach because of it.

Respectfully submitted,

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